Influence of electronic structure of CeSbNi$_{0.15}$ on its optical conductivity [*]

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Semimetallic CeSb having very low carrier density exhibits unusual properties which are the transport property of typical dense Kondo lattice system, the coexistence of magnetic and nonmagnetic Ce^{3+} ions plane, the low value of the crystalline-electric- field splitting and strong magnetic anisotropy etc. These properties have been well explained on the basis of the non-linear p-f mixing model. Recently, it is reported that the p-f mixing collapses in the system of CeSb with Ni incorporation(CeSbNi$_x$). The metal-insulator transition near T$_N$ is generated by the p-f mixing collapse in the range of x<0.4. Especially, the transition is distinctly shown in x=0.15. We have measured the reflectivity spectra at various temperatures in order directly to certify the p-f mixing collapse in CeSbNi$_{0.15}$. The electronic structure near Fermi energy is investigated by the optical conductivity spectra obtained the reflectivity ones. The change of the electronic structure with the change of temperature is explained by the p-f mixing collapse. We will report them in this conference.